

REMARKS

Applicants appreciate the Examiner's indication that claims 17-19 are allowable and that dependent claims 3-9, 12-16, 22 and 23 contain allowable subject matter.

Additionally, in the Office Action, the Examiner rejected claims 1, 2, 10, 11, 20, and 21. Claims 1, 2, 10, 11, and 20 were rejected under 35 U.S.C. § 103(a) in view of U.S. Patent No. 6,658,595 to Thamattoor ("Thamattoor"). Claim 21 was rejected under 35 U.S.C. § 112, second paragraph.

By this Amendment, applicants have amended claims 10 and 20 to improve form and amended claim 21 to correct a typographical error. Claims 1-23 are pending.

Applicants submit that claim 21, as amended, is clear and definite and in full compliance with 35 U.S.C § 112. Accordingly, the rejection of this claim should be withdrawn.

Claims 1, 2, 10, 11, and 20 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Thamattoor. Applicants respectfully traverse.

Claim 1 is directed to a router for routing packets in a network. The router includes a plurality of processing components and a plurality of routing engines. One of the processing components is an active processing component and the other of the plurality of processing components are non-active processing components within the router. One of the plurality of routing engines is an active routing engine and the other of the plurality of routing engines are non-active routing engines. At least one of the non-active routing engines receives information from the active routing engine indicating whether the active routing engine is functioning. The at least one of the non-active

routing engines being configured to assert itself as the active routing engine when the non-active routing engine fails to receive the information from the active routing engine.

Thamattoor is directed to a method and system for asymmetrically maintaining system operability. Thamattoor discloses first and second “processing elements.” (Thamattoor, Abstract). The second processing element is operable to perform at least one function of the first processing element in the event the first processing element fails. (Thamattoor, Abstract).

Applicants submit that Thamattoor does not disclose or suggest a number of the features recited in claim 1. Thamattoor does not disclose or suggest, for example, a router that includes a plurality of processing components and a plurality of routing engines, as recited in claim 1. As is further recited in claim 1, the processing components of claim 1 are configured to determine destination information for packets and the routing engines of claim 1 are configured to maintain routing tables that contain packet routing information and supply the routing tables to the processing components.

In rejecting claim 1 based on Thamattoor, the Examiner specifically points to column 3, lines 3-7 and column 4, lines 6-13 of Thamattoor, alleging that these sections of Thamattoor disclose the use of routers as recited in claim 1. In these sections, Thamattor discloses that processing elements A and B (see Thamattoor, Fig. 1) may implement a “variety of functions desired by system 10 and may include any suitable variety of communication hardware or software network elements to transfer a variety of voice, video, data, or other information within system 10 or to users.” (Thamattoor, col. 3, lines 4-7). Further, in the first paragraph of column 4, Thamattoor states:

For example, in one embodiment of the invention, processing elements A and B each comprise router blades or cards, or portions within a single

router blade or card, used in a communications network. Each router blade typically comprises logic to route traffic such as data packets between bus 20 and bus 30. Routers typically examine destination addresses of the data and forward or route data over different circuits or networks based on these addresses. Routers can also be programmed to forward data through different paths based on line availability, utilization, or other parameters. They can also be used to construct a secondary traffic path in the event a primary path becomes inoperative, on a dynamic or predetermined basis.

(Thamattoor, col. 4, lines 1-13). These sections of Thamattoor appear to disclose that each of processing elements A and B may be a router, or a portion of a router. “Routers” A and B are clearly contemplated by Thamattoor, however, as being independent routers. This is further clarified in the next paragraph of Thamattoor, which goes on to say that “Each router has logic to communicate with the other router by utilizing bus 20 and/or bus 30 to send messages or signals.” (Thamattoor, col. 4, lines 13-15) (emphasis added).

Applicants submit that each single router “A” and “B” of Thamattoor could not possibly disclose or suggest each of the elements recited in claim 1, which recites a router that includes the claimed plurality of processing elements and a plurality of routing engines. Thamattoor, in contrast, is primarily concerned with the communications between routers A and B, and not the individual implementation of either of routers A or B.

At page 4 of the Office Action, the Examiner appears to concede that Thamattoor does not disclose any particular router related details of processing elements “A” and “B,” but contends that these would have been obvious in view of Thamattoor. In particular, the Examiner states:

Thamattoor, however, teaches all the recited functions of claim 1 without separating the functions relating to processing components or to routing engines. Router typically includes a plurality of functional blocks for performing necessary routing functions. Although Thamattoor did not provide the specific teaching of employing separate processing element

and routing engine, such aspect is suggested by Thamattoor at col. 3, lines 3-7, which states that the processing elements may include any suitable variety of communication hardware or software network elements to carry out the necessary functions. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the teaching of Thamattoor by designing the router according to its related functions by employing separate processing blocks and routing engines in order for the router to perform most efficiently.

(Office Action, page 4). Applicants respectfully disagree with the Examiner's conclusion of obviousness. Thamattor merely discloses that processing elements A and B may be routers. Even assuming, *arguendo*, that routers are known to include a routing engine and a processing element, it is not known in the art to include a plurality of processing components and routing engines, as recited in the specific configuration of claim 1. More specifically, as recited in claim 1, a plurality of processing components are included, one of the processing components being an active processing component and the other of the plurality of processing components being non-active processing components within the router. As is further recited in claim 1, a plurality of routing engines are included, one of the plurality of routing engines being an active routing engine and the other of the plurality of routing engines being non-active routing engines.

Accordingly, absent impermissible hindsight gleaned from Applicants' specification, Applicants submit that Thamattoor does not support a *prima facie* case of obviousness under 35 U.S.C. § 103(a). The rejection of claim 1 is thus improper and should be withdrawn.

Claim 2 depends from claim 1. Therefore, this claim is not obvious in view of Thamattoor for at least the reasons given above with respect to claim 1. Moreover, this claim recites features not disclosed or suggested by Thamattoor.

For example, claim 2 recites a redundancy controller connected to the plurality of routing engines, the redundancy controller resetting the active routing engine when the non-active routing engine asserts itself as the active routing engine. The Examiner points to column 4, lines 37-42 and column 6, lines 3-5 of Thamattoor as allegedly disclosing this feature. (Office Action, page 4). Applicants respectfully disagree. Column 4, lines 37-42 merely describe that when one of processing elements A and B fails, the non-failing processing element may reset and shut the failing one down. Column 6, lines 3-5 disclose similar operations of processing elements A and B. As mentioned previously, the inter-router communications of processing elements A and B, as described by Thamattoor, does not disclose or suggest the features of the router recited in claim 1. Similarly, the redundancy controller of claim 2, which is included in the router of claim 1, is also not disclosed or suggested by Thamattoor. Thus, the rejection of claim 2 is improper and should be withdrawn.

Independent claim 10 was also rejected by the Examiner based on Thamattoor. Claim 10, as amended, is directed to a router that comprises a first routing engine of the router, a second routing engine of the router, and a redundancy controller circuit connected to the first and second routing engines and configured to reset one of the first and second routing engines and to allow the other of the first and second routing engines to become an active routing engine. For reasons similar to those given above regarding the rejection of claims 1 and 2, Applicants submit that Thamattoor does not disclose or suggest a router including first and second routing engines, as recited in claim 10, much less the redundancy controller also recited in claim 10.

For at least these reasons, Thamattoor does not disclose or suggest each element of claim 10 and the rejection of claim 10 should therefore be withdrawn. The rejection of claim 11 should also be withdrawn, at least by virtue of the dependency of claim 11 from claim 10.

Independent claim 20 was also rejected by the Examiner based on Thamattoor. Claim 20, as amended, is directed to a method of controlling a router having redundant components, including at least first and second routing engines coupled to a packet forwarding engine. The method includes setting the first routing engine of the router to an active state, the first routing engine communicating with the packet forwarding engine while in the active state and setting the second routing engine of the router to a standby state, the second routing engine, when in the standby state, monitoring the first routing engine for a failure in the first routing engine. For reasons similar to those given above regarding the rejection of claims 1 and 2, Applicants submit that Thamattoor does not disclose or suggest the method of claim 20, which includes operations of first and second routing engines of a router. Thus, the rejection of this claim is improper and should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 CFR 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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